HP StorageWorks

Enterprise File Services WAN Accelerator 2.1.3

release notes

Enterprise File Services WAN Accelerator 2.1.3 release notes

About this document

This section describes the content in this document, including:

- Release notes information, page 3
- Intended audience, page 3
- Accessing future product updates, page 3
- Other documentation, page 3

Release notes information

These release notes contain the following major topics:

- Hardware and software requirements, page 4
- New features in version 2.1.3, page 4
- New features in version 2.1, page 4
- Reporting Improvements, page 6
- Hardware and software requirements, page 7
- PFS limitations, page 7
- Limitations, page 8
- Upgrading from version 1.2 to version 2.1, page 8
- Miscellaneous Issues, page 11
- Documentation notes, page 12

Intended audience

This document is intended for customers who purchased the HP StorageWorks Enterprise File Services (EFS) WAN Accelerator 2.1.

Accessing future product updates

HP strongly recommends that customers sign up online using the Subscriber's choice web site at http://www.hp.com/go/e-updates.

- Subscribing to this service provides you with e-mail updates on the latest product enhancements, newest versions of drivers, and firmware documentation updates as well as instant access to numerous other product resources.
- After signing up, you can quickly locate your products by selecting **Business support** and then **Storage** under Product Category.

Other documentation

You can access the complete document set for the HP EFS WAN Accelerator from the HP StorageWorks EFS WAN Accelerator Documentation Set CD-ROM:

- *HP StorageWorks Enterprise File Services WAN Accelerator Installation and Configuration Guide* describes how to install and configure the HP EFS WAN Accelerator.
- *HP StorageWorks Enterprise File Services WAN Accelerator Command-Line Interface Reference Manual* is a reference manual for the HP EFS WAN Accelerator command-line interface for the HP EFS WAN Accelerator. It lists commands, syntax, parameters, and example usage.
- *HP StorageWorks Enterprise File Services WAN Accelerator Deployment Guide* describes how to deploy the HP EFS WAN Accelerator in complex network environments (for example, environments using Web Cache Communication Protocol (WCCP), Policy-Based Routing (PBR), and Layer-4 switches).
- *HP StorageWorks Enterprise File Services WAN Accelerator Management Console User Guide* describes how to use the HP EFS WAN Accelerator Management Console to administer and monitor your HP system.
- *HP StorageWorks Enterprise File Services Remote Copy Utility Reference Manual* describes how to install and deploy the HP EFS Remote Copy Utility (RCU). The RCU is an optional utility of the HP EFS

WAN Accelerator that copies, mirrors, and transparently prepopulates data. You can download the RCU from the HP support site located at: http://www.hp.com/.

- *HP StorageWorks Enterprise File Services WAN Accelerator Manager User Guide* describes how to install, configure, and administer a network made up of multiple HP EFS WAN Accelerators using the HP StorageWorks Enterprise File Services WAN Accelerator Manager.

- *HP StorageWorks Enterprise File Services N4c WAN Accelerator 4-port NIC Installation Guide* describes how to install bypass cards in the HP EFS WAN Accelerator.

Additional documentation, including white papers and best-practices documents, is available on the HP web site at: http://www.hp.com/go/efs.

Hardware and software requirements

The following table summarizes the hardware and software requirements for the HP EFS WAN Accelerator.

HP Component	Hardware and Software Requirements
HP EFS WAN Accelerator	19 inch (483 mm) two- or four-post rack.
HP EFS WAN Accelerator Management Console, HP StorageWorks Enterprise File Services WAN Accelerator Manager	• Any computer that supports a Web browser with color image display. • The Management Console has been tested with Mozilla, version1.6 and 1.7, and Microsoft Internet Explorer version 6.0x. **NOTE:** Javascript and cookies must be enabled in your Web browser.
HP EFS WAN Accelerator Command-Line Interface	• An ASCII terminal or emulator that can connect to the serial console (9600 baud, 8 bits, no parity, 1 stop bit, and no flow control) or a computer with a Secure Shell (ssh) client that is connected by an IP network to the HP EFS WAN Accelerator primary interface. • Secure Shell (ssh). Free ssh clients include PuTTY for Windows® computers, OpenSSH for many Unix and Unix-like operating systems, and Cygwin.

⚠ **WARNING!** Ensure that the HP EFS WAN Accelerator is properly grounded. See the *HP ProLiant DL320 Generation 3 Server User Guide* or the *HP ProLiant DL380 Generation 4 Server Reference and Troubleshooting Guide* for more information on grounding.

New features in version 2.1.3

The following features are available in this release:

Policy Based Routing (PBR) with Cisco Discovery Protocol (CDP)

CDP is a protocol used by Cisco routers and switches to obtain neighbor IP addresses, model, IOS version, and so on. The protocol runs at the Open System Interconnection (OSI) layer 2 using the 802.3 Ethernet frame.

New features in version 2.1

The following features are available in this release:

Proxy File Service

You can enable Proxy File Service (PFS) if you have an HP EFS WAN Accelerator, DL320-1010, DL320-2010, DL380-3010, or DL380-5010. PFS provides fast access to local files and continuous access

to files in the event of WAN disruption. PFS allows you to store local copies of files at the remote site (that is, a branch office) in an integrated virtual file server resident on the HP EFS WAN Accelerator. PFS requires the HP EFS Remote Copy Utility (RCU).

High-Speed TCP

For the HP EFS WAN Accelerator DL380-5010, High-Speed TCP provides dramatic acceleration and throughput for high bandwidth networks where the WAN pipe is large.

Microsoft Structured Query Language (MS-SQL) Acceleration Module

Enabling the MS-SQL Acceleration Module allows you to send SQL requests and responses between clients and servers to improve optimization for Microsoft Project 2003 (MS Project). This feature is optional. If you want to optimize other database systems, contact HP Professional Services to assist you in configuring the HP EFS WAN Accelerator.

Serial clustering

You can provide increased optimization capacity by deploying several HP EFS WAN Accelerators back-to-back in an in-path configuration to create a serial cluster. HP strongly recommends you use DL380-5010 HP EFS WAN Accelerators in serial clustering deployments.

Port labeling

You can assign a port label to a range of ports when you define configuration rules in the HP EFS WAN Accelerator. For example, you can specify a port label for a set of ports when you define fixed-target rules in the HP EFS WAN Accelerator.

4-Port Gig-E support.

Version 2.1 supports up to three cards per system on the DL380-3010 and DL380-5010 models. When there are multiple physical links going from the Local Area Network (LAN) to the WAN you can use the Four-Port Gig-E interface to build multiple pairs of LAN and WAN interfaces (or multiple relays).

Fiber Card support

Version 2.1 supports one card per system on the DL380-3010 and DL380-5010 models. The Fiber Card allows you to connect to optical fiber devices in your network.

Backward compatibility

Version 2.1 HP EFS WAN Accelerator software is backward compatible with version 1.2.6 and later software.

Connection Forwarding

In asymmetric networks, where a client request traverses a different network path than the server response, you can enable Connection Forwarding to ensure that the HP EFS WAN Accelerator optimizes the connections, even though they traverse different paths.

Automatic data store synchronization

The HP EFS WAN Accelerator automatically copies the data store from the master HP EFS WAN Accelerator to the backup HP EFS WAN Accelerator in failover configurations. The HP EFS WAN Accelerator automatically detects changes in the master HP EFS WAN Accelerator data store and copies the changes to the backup HP EFS WAN Accelerator without disrupting end users.

HP EFS WAN Accelerator to HP EFS WAN Accelerator encryption

The HP EFS WAN Accelerator supports authentication and encryption for communication between two HP EFS WAN Accelerators using Internet Protocol Security (IPsec). The HP EFS WAN Accelerator also supports Perfect Forward Secrecy to provide additional security by renegotiating keys at specified intervals.

Microsoft Exchange 2003 Turbo

In addition to the acceleration for Exchange 5.5 and 2.0 messaging environments, the HP EFS WAN Accelerator provides latency-specific optimizations for Microsoft Exchange 2003. The result is dramatically faster Exchange 2003 e-mail performance.

Neural Framing

Neural Framing enables the HP EFS WAN Accelerator to select the optimal packet framing boundaries for SDR. SDR encoding provides the best optimization results when the largest buffer is available before a flush is performed.

Optimization policies

Setting an optimization policy allows you more flexibility in applying optimization techniques. For example, if you have a network with abundant bandwidth, you do not need to perform Lempel-Ziv (LZ) compression to obtain maximum optimization of data.

Job scheduling

Jobs are HP EFS WAN Accelerator command-line interface (CLI) commands that are scheduled to execute at a time you specify. You can schedule software upgrades in the Management Console or in the CLI; you must schedule all other jobs using the CLI only. You can view pending, inactive, and completed jobs in the Management Console.

Connection Pooling

Connection Pooling enables you to save an extra round-trip across the WAN for an initial connection. Connection pooling is useful for protocols which open a number of short lived connections such as HyperText Transport Protocol (HTTP).

Faster CIFS folder browsing

Specific areas of CIFS improvement include faster directory browsing operations and better acceleration of data transfers containing folders of small files.

Throughput performance statistics

Performance statistics measuring application throughput performance are now available in the Management Console and the CLI.

SNMP enterprise Management Information Base (MIB)

A proprietary HP EFS WAN Accelerator MIB containing detailed device information and statistics is available for seamless integration into enterprise management systems.

Reporting Improvements

Version 2.1 provides the following performance reporting improvements:

Throughput performance statistics

Performance statistics measuring application throughput performance are now available in the Management Console and the CLI.

- Throughput statistics
  - Per port/application throughput statistics
  - View peaks and 95th percentile measurements
- Detailed Connection Statistics
  - Byte counts per src/dest for top talkers
  - Data reduction per connection
  - Application and protocol error status per connection
  - View optimization policy per connection
  - View current or pre-existing connections

- Apply TCP keep-alive or reset to a specified connection
- Connection Count Trending
- Data Store Hit Rates and Disk Space Used
- 3D Rendition of Traffic Patterns
- Five Minute Trending Interval
- Improved Traffic Summary Statistics

Hardware and software requirements

HP EFS WAN Accelerator hardware requirement

- 19 inch (483 mm) two- or four-post rack

HP EFS WAN Accelerator Management Console requirements

- Any computer that supports a Web browser with a color image display
- Javascript and cookies must be enabled on your Web browser

> **NOTE:** The Management Console has been tested with Mozilla, version 1.6, 1.7 and Microsoft Internet Explorer version 6.0x.

HP EFS WAN Accelerator CLI requirements

- An ASCII terminal or emulator that can connect to the serial console (9600 baud, 8 bits, no parity, 1 stop bit, and no flow control)
- A computer with a Secure Shell (ssh) client that is connected by an IP network to the HP EFS WAN Accelerator Primary interface. Free ssh clients include PuTTY for Windows computers, OpenSSH for many Unix and Unix-like operating systems, or Cygwin.

PFS limitations

Before upgrading to version 2.1 from version 2.0, you must turn off the PFS auto-launch feature and save your changes to memory in either the Management Console or the CLI.

Turning off the PFS auto-launch feature in the Management Console

1. Go to Setup > Start/Stop Services > select Manual from the PFS drop down list.
2. Save your configuration changes to memory in the Configuration Manager page.

Turning off the PFS auto-launch feature in the Command-Line Interface

1. Connect to the CLI. For detailed information, see the *HP StorageWorks Enterprise File Services WAN Accelerator Command-Line Interface Reference Manual*.
2. At the system prompt, enter the following commands:

```
SH > enable
SH # configure terminal
SH (config) # no pfs auto-launch enable
SH (config) # write memory
```

You cannot change from one configuration to another in PFS deployments. The HP EFS WAN Accelerator Management Console has been built around Cisco CLI management model, which has following major characteristics features:

- Any configuration change is applied to the system immediately but not saved permanently without the system administrator committing the configuration changes. This means after making the configuration changes, if the system is rebooted (or the Management Console is restarted) the system comes up with the last saved configuration.

- The system administrator can maintain different configurations under different names and can switch to any saved configuration at any time and continue without disruptions (of course, assuming that the saved configuration was valid and is still valid).

The above functionality works very well for network devices such as the HP EFS WAN Accelerators. However, with the addition of PFS feature, it has the following implications:

- Any configuration change such as adding or deleting a share, if not saved automatically causes the system to start with the impaired functionality and causes service disruption.
- There is no concept of switching configurations with PFS. If saved configuration *save1* has the system as part of domain *save1.dom* and has shares a, b, and c, and the current configuration has the system as part of *curr.dom* and has shares x, y and z; switching to *save1* configuration does not work because the domain information that makes the system part of domain *save1.dom* has been over written. Also, the data belonging to the shares a, b and c has been wiped out. Therefore, switching configurations makes the PFS configuration information invalid.

Limitations

- Samba SMB client on Linux with either a Windows or Samba server gains only bandwidth optimization, not latency optimization.
- An SMB mount from Linux to any CIFS server is not significantly accelerated. (It performs Scalable Data Referencing but does not perform Transaction Prediction.)
- CIFS performance degradation occurs with multiple sets (pairs) of in-path HP EFS WAN Accelerators (Bug #3746).

For example:

```
client->DL320-2010->WAN->DL320-2010->DL320-1010->DL320-2010->server
```

This problem is dependent on this configuration. Contact HP Technical Support for further information at http://www.hp.com.

Upgrading from version 1.2 to version 2.1

Version 2.1 interoperates with version 1.2. These instructions assume you are familiar with the HP EFS WAN Acceleratore, the HP EFS WAN Accelerator Command-Line Interface, and the HP EFS WAN Accelerator Management Console.

NOTE: Version 2.1 is backward compatible with version 1.2.6 software. If you are running version1.2.5 or lower, you must upgrade to version 1.2.6 before you upgrade to version 2.1.

IMPORTANT: Do not clear the data store before performing a software upgrade.

NOTE: The following upgrade instructions assume that you have a network of 10 WAN Accelerators (WAN Accelerator-1 through WAN Accelerator-10). Initially, you will upgrade 3 WAN Accelerators (WAN Accelerator-1 through WAN Accelerator-3).

Steps for upgrading from version 1.2 to version 2.1:

1. Connect to the Management Console on each HP EFS WAN Accelerator.
2. Install the version 2.1 image in the Setup (Software Upgrade page).
3. Save the current configuration in the Setup (Configuration Manager page).
4. Reboot the HP EFS WAN Accelerator in the Setup (Reboot WAN Accelerator page).
5. Connect to the CLI on each of the three HP EFS WAN Accelerators.
6. At the system prompt, enter the following commands:

```
SH > enable
SH # configure terminal
SH (config) # peer 0.0.0.0 version min 5
SH (config) # peer 0.0.0.0 version max 5
SH (config) # write memory
```

📝 **NOTE:** This set of commands ensures that HP EFS WAN Accelerators with version 2.1 can communicate with all HP EFS WAN Accelerators with version 1.2 in the network. To take advantage of the version 2.1 features, configure the HP EFS WAN Accelerator with version 2.1 to communicate with other HP EFS WAN Accelerators using the version 2.1 protocol.

7. On WAN Accelerator-1, at the system prompt, enter the following commands:
```
SH1 (config) # peer <WAN Accelerator-2 IP addr> version min 6
SH1 (config) # peer <WAN Accelerator-2 IP addr> version max 6
SH1 (config) # peer <WAN Accelerator-3 IP addr> version min 6
SH1 (config) # peer <WAN Accelerator-3 IP addr> version max 6
SH1 (config) # write memory
SH1 (config) # restart
```

8. On WAN Accelerator-2, at the system prompt, enter the following commands:
```
SH2 (config) # peer <WAN Accelerator-1 IP addr> version min 6
SH2 (config) # peer <WAN Accelerator-1 IP addr> version max 6
SH2 (config) # peer <WAN Accelerator-3 IP addr> version min 6
SH2 (config) # peer <WAN Accelerator-3 IP addr> version max 6
SH2 (config) # write memory
SH2 (config) # restart
```

9. On WAN Accelerator-3, at the system prompt, enter the following commands:
```
SH3 (config) # peer <WAN Accelerator-2 IP addr> version min 6
SH3 (config) # peer <WAN Accelerator-2 IP addr> version max 6
SH3 (config) # peer <WAN Accelerator-1 IP addr> version min 6
SH3 (config) # peer <WAN Accelerator-1 IP addr> version max 6
SH3 (config) # write memory
SH3 (config) # restart
```

Run the version 2.1 software for a period of time to ensure stability.

📝 **NOTE:** Every time a new HP EFS WAN Accelerator is upgraded to version 2.1, you must configure each of the HP EFS WAN Accelerators already running version 2.1 to communicate with it using the version 2.1 protocol.

For example, if WAN Accelerator-4 is upgraded to version 2.1.

1. On WAN Accelerator-1, at the system prompt, enter the following commands:
```
SH1 (config) # peer <WAN Accelerator-4 IP addr> version min 6
SH1 (config) # peer <WAN Accelerator-4 IP addr> version max 6
SH1 (config) # write memory
SH1 (config) # restart
```

2. On WAN Accelerator-2, at the system prompt, enter the following commands:
```
SH2 (config) # peer <WAN Accelerator-4 IP addr> version min 6
SH2 (config) # peer <WAN Accelerator-4 IP addr> version max 6
```

```
SH2 (config) # write memory
SH2 (config) # restart
```

3. On WAN Accelerator-3, at the system prompt, enter the following commands:

```
SH3 (config) # peer <WAN Accelerator-4 IP addr> version min 6
SH3 (config) # peer <WAN Accelerator-4 IP addr> version max 6
SH3 (config) # write memory
SH3 (config) # restart
```

4. On WAN Accelerator-4, at the system prompt, enter the following commands:

```
SH4 (config) # peer 0.0.0.0 version min 5
SH4 (config) # peer 0.0.0.0 version max 5
SH4 (config) # peer <WAN Accelerator-1 IP addr> version min 6
SH4 (config) # peer <WAN Accelerator-1 IP addr> version max 6
SH4 (config) # peer <WAN Accelerator-2 IP addr> version min 6
SH4 (config) # peer <WAN Accelerator-2 IP addr> version max 6
SH4 (config) # peer <WAN Accelerator-3 IP addr> version min 6
SH4 (config) # peer <WAN Accelerator-3 IP addr> version max 6
SH4 (config) # write memory
SH4 (config) # restart
```

📝 **NOTE:**   If you upgrade the remaining WAN Accelerators in your network (WAN Accelerator-5 through WAN Accelerator-10), and there are no more version 1.2 WAN Accelerators, you can remove all the version configurations on WAN Accelerator-1 through WAN Accelerator-4.

---

1. Connect to the Management Console on each WAN Accelerator.
2. Install the version 2.1 image in the Setup: Software Upgrade page.
3. Save the current configuration in the Setup: Configuration Manager page.
4. Reboot the WAN Accelerator in the Setup: Reboot WAN Accelerator page.
5. Connect to the CLI on each of the 3 WAN Accelerators you originally upgraded (that is, WAN Accelerator-1, WAN Accelerator-2, WAN Accelerator-3, WAN Accelerator-4).
6. On WAN Accelerator-1, at the system prompt, enter the following commands:

```
SH1 > enable
SH1 # configure terminal
SH1 (config) # no peer 0.0.0.0
SH1 (config) # no peer <WAN Accelerator-2 IP addr>
SH1 (config) # no peer <WAN Accelerator-3 IP addr>
SH1 (config) # no peer <WAN Accelerator-4 IP addr>
SH1 (config) # write memory
SH1 (config) # restart
```

7. On WAN Accelerator-2, at the system prompt, enter the following commands:

```
SH2 > enable
SH2 # configure terminal
SH2 (config) # no peer 0.0.0.0
SH2 (config) # no peer <WAN Accelerator-1 IP addr>
SH2 (config) # no peer <WAN Accelerator-3 IP addr>
SH2 (config) # no peer <WAN Accelerator-4 IP addr>
SH2 (config) # write memory
SH2 (config) # restart
```

8. On WAN Accelerator-3, at the system prompt, enter the following commands:

```
SH3 > enable
SH3 # configure terminal
SH3 (config) # no peer 0.0.0.0
SH3 (config) # no peer <WAN Accelerator-1 IP addr>
SH3 (config) # no peer <WAN Accelerator-2 IP addr>
SH3 (config) # no peer <WAN Accelerator-4 IP addr>
SH3 (config) # write memory
SH3 (config) # restart
```

9. On WAN Accelerator-4, at the system prompt, enter the following commands:

```
SH4 > enable
SH4 # configure terminal
SH4 (config) # no peer 0.0.0.0
SH4 (config) # no peer <WAN Accelerator-1 IP addr>
SH4 (config) # no peer <WAN Accelerator-2 IP addr>
SH4 (config) # no peer <WAN Accelerator-3 IP addr>
SH4 (config) # write memory
SH4 (config) # restart
```

IMPORTANT: If you are downgrading to a previous version of the HP EFS WAN Accelerator software, you must downgrade to a version of the software that has previously run on your machine. For example, you cannot upgrade from version 1.2.3 to version 2.0 or version 2.1 and downgrade to version 1.2.8. You must downgrade to version 1.2.3. and then upgrade to version 1.2.8. If you do not follow this step, your configuration will be discarded and unrecoverable.

TIP: Either go back to a previously installed revision, or save the text results of a show running-configuration command before downgrading in a machine other than the HP EFS WAN Accelerator, and apply it after the downgrade.

Miscellaneous Issues

Remote software re-imaging

You can not use the Integrated Lights Out (iLO) Virtual CD capability to restore the system software using the Quick Restore CD. Insert the Quick Restore CD into the CD/DVD-ROM drive on the HP EFS WAN Accelerator to restore the system software.

SATA software RAID configuration

If the SATA Software RAID BIOS field is enabled, the Quick Restore fails with an unrelated error. Set the SATA Software RAID BIOS field to **Disabled** for the Quick Restore CD to function properly.

SNMP configuration

The HP EFS WAN Accelerator has two graphical user interfaces, one for acceleration and general system management (the Management Console), and the other for the HP System Management Homepage. Use the Management Console or the command-line interface to modify SNMP settings, rather than the System Management Homepage. To change the read-write community string, use the **SNMP-server rwcommunity** CLI command.

Console messages

The following messages may appear on the console of the WAN Accelerator:

```
[blockpoll/smp/linux26_blockpoll.c:391] partition starts at xxxxx (in sectors)
and size is xxxxx KB

program cmaided is using a deprecated SCSI ioctl, please convert it to SG_IO

u32 classifier
    Performance counters on
    OLD policer on
    input device check on
```

These messages are informational only, and can be safely ignored.

Synchronization with Standalone PFS shares

Synchronization with a Standalone PFS share may not work correctly. If using Standalone shares and synchronization, verify that it is working properly, or choose a different type of PFS share when using synchronization.

Setting the system date/time

When setting the system date/time in the web based GUI, if the date and time is significantly off, when set to the current date and time, the GUI will log the user off. If this occurs, log back in, and the date will have been set correctly, you can now set the time.

Refreshing web GUI pages

When configuring items through the web GUI, at times a browser error may be returned saying, "`Page not found`." When this occurs, press the **Refresh** button in the web browser, and the page often returns correctly.

Documentation notes

HP StorageWorks Enterprise File Services WAN Accelerator Deployment Guide

Chapter 6: *Policy-Based Routing Deployments*:

The interface parameter was omitted from the ip in-path-gateway command.
For all instances of:

```
ip in-path-gateway <ip address>
```

replace with:

```
ip in-path-gateway inpath0_0 <ip address>
```

NOTE: This interface parameter (inpath0_0) is required for version 2.x.x. It is not required for version 1.2.

In sections describing how to configure the Cisco router
For all instances of:

```
ip address <ip address> 0.0.255.255
```

replace with:

```
ip address <ip address> 255.255.0.0
```

HP StorageWorks Enterprise File Services WAN Accelerator Command-Line Interface Reference Manual

The following commands were omitted:

```
[no] protocol cifs opt-strict-lock enable
```

📝 **NOTE:** The `[no] protocol cifs opt-strict-lock enable` command provides strict optimization for the HP EFS WAN Accelerators when they do not optimize writes if the file does not have exclusive oplock and a file is shared for read/write (for example, when PFS share mode denies both read and write to a file).

```
show protocol cifs internal
```